December 8, 1999

Mr. Kenny Wilson
Vice President
Keller Crescent Company
6454 Saguaro Court
Indianapolis, Indiana 46278

Re: Registered Construction and Operation Status,
097-11620-00270

Dear Mr. Wilson:

The application from Keller Crescent Company, received on September 23, 1999, has been reviewed. Based on the data submitted and the new provisions in IAPCB Regulation 2 (Permits) and state regulations 326 IAC 2-5.1-2 and 326 IAC 2-5.5, it has been determined that the following printing operations, to be located at 6454 Saguaro Court, Indianapolis, Indiana, are classified as registered. This Registration shall expire December 1, 2004.

The source consists of the following facilities which were permitted on October 31, 1994 and renewed September 17, 1998.

(a) One (1) Hamilton 140 nonheatset web offset lithographic printer utilizing the following materials:
1. Litho Inks, maximum throughput of 588 gal/yr;
2. Acetone, maximum throughput of 40 gal/yr;
3. Type Wash, maximum throughput of 300 gal/yr;
4. Roller Wash, maximum throughput of 120 gal/yr; and
5. PR-628 Alcohol, maximum throughput of 24 gal/yr.

(b) One (1) Heidleberg GT02-52 sheetfed offset lithographic printer utilizing the following materials:
1. Litho ink, maximum throughput of 294 gal/yr;
2. Acetone, maximum throughput of 20 gal/yr;
3. Type wash, maximum throughput of 150 gal/yr;
4. Roller wash, maximum throughput of 60 gal/yr; and
5. PR-628 Alcohol, maximum throughput of 12 gal/yr.

(c) One (1) Miller TP-38A sheetfed offset lithographic printer utilizing the following materials:
1. Litho ink, maximum throughput of 294 gal/yr;
2. Acetone, maximum throughput of 20 gal/yr;
3. Type wash, maximum throughput of 150 gal/yr;
4. Roller wash, maximum throughput of 60 gal/yr; and
5. PR-628 Alcohol, maximum throughput of 12 gal/yr.

(d) One (1) Comco UV Ink Flexo printer utilizing the following materials:
1. UV inks, maximum throughput 210 gal/yr;
2. Acetone, maximum throughput 20 gal/yr; and
3. Roller Wash, maximum throughput 90 gal/yr.

(e) One (1) Gallus R160E02 Rotary UV Ink Letterpress Label Printer utilizing the following materials:
1. UV inks, maximum throughput 210 gal/yr;
2. Acetone, maximum throughput 10 gal/yr; and
3. Roller Wash, maximum throughput 60 gal/yr.

(f) One (1) Gallus R160-B03 Rotary Letterpress and Screen Combination Printer utilizing the following materials:
1. UV inks, maximum throughput 210 gal/yr;
2. Acetone, maximum throughput 10 gal/yr;
3. Roller Wash, maximum throughput 30 gal/yr; and
4. Propylene Glycol Monoethyl Ether maximum throughput 100 gal/yr.

(g) One (1) Mark Andy 404 Waterbase Flexo Printer utilizing the following materials:
1. Litho inks, maximum throughput 263 gal/yr;
2. Acetone, maximum throughput 2 gal/yr;
3. Type Wash, maximum throughput 7 gal/yr; and
4. Roller Wash, maximum throughput 10 gal/yr.

(h) One (1) Miller 407 Sheetfed Offset Lithographic Printer utilizing the following materials:
1. Litho inks, maximum throughput 205 gal/yr;
2. Acetone, maximum throughput 5 gal/yr;
3. Type Wash, maximum throughput 127 gal/yr; and
4. Roller Wash, maximum throughput 104 gal/yr.

(i) One (1) Kelleigh 210 Cyrel Platemaking System utilizing Optisol Rotary Solution, maximum throughput 30 gal/yr.

The following is a modification:

(j) One (1) Stevens 2000 Flexographic Printer utilizing a water based ink, maximum throughput of 133,680 gal/yr.

The following conditions shall be applicable:

1. Pursuant to IAPCB Regulation 5-1-2 (Smoke and Other Visible Emissions) and 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following:

   (a) Opacity shall not exceed an average of thirty percent (30%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

   (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

2. Pursuant to The Code of Indianapolis and Marion County Chapter 511, this registration will be subject to annual operating fees.

3. Pursuant to IAPCB Regulation 2-6 (Annual emission statement rule) and state regulation 326 IAC 2-6(Emission Reporting), an authorized individual shall provide an annual emission statement to the Environmental Resources Management Division and the Office of Air Management at the addresses listed below no later than April 15 of each year.

Technical Support and Modeling
Office of Air Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, Indiana 46206-6015

and
Environmental Resources Management Division
Air Quality Management Section, Compliance Data Group
2700 South Belmont Avenue
Indianapolis, Indiana 46221-2097

3. Pursuant to IAPCB Regulation 2 (Permits) and state regulation 326 IAC 2-5.1-2(f)(3), an authorized individual shall provide an annual notice to the Environmental Resources Management Division and the Office of Air Management that the source is in operation and in compliance with this registration at the addresses listed below, in the format attached, no later than April 15 of each year.

Compliance Data Section
Office of Air Management
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015
and
Environmental Resources Management Division
Air Quality Management Section, Compliance Data Group
2700 South Belmont Avenue
Indianapolis, Indiana 46221-2097

This registration is the first air approval issued to this source. The source may operate according to IAPCB Regulation 2 (Permits) and state regulation 326 IAC 2-5.5.

The Permittee shall submit an application to renew this Registration prior to September 8, 2004. An application or notification shall be submitted in accordance with IAPCB Regulation 2 (permits) and state regulation 326 IAC 2 to the Air Quality Management Section (AQMS) and the Office of Air Management (OAM) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Robert Holm, Ph.D
Administrator

TMH

cc: Matt Mosier, Permits and Compliance Program Manager
Cheryl Carlson, Enforcement Program Manager
Mindy Hahn, IDEM
Gail McGarrity, IDEM

Registration
Annual Notification

This form should be used to comply with the notification requirements under ***326 IAC 2-5.1-2(f)(3) or 326 IAC 2-5.5-4(a)(3)***

Company Name:
Address:
City:
Authorized individual:
Phone #:
Registration #:

I hereby certify that **Keller Crescent Company** is still in operation and is in compliance with the requirements of Registration **097-11620-00270**.

Name (typed):
Title:
Signature:
Date:

Indianapolis Environmental Resources Management Division
Air Quality Management Section

and

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name:	Keller Crescent Company
Source Location:	6454 Saguaro Court, Indianapolis, IN
County:	Marion
Operation Permit No.:	097-11620-00270
Permit Reviewer:	Tena Hopkins

The Environmental Resources Management Division (ERMD) has reviewed an application for Keller Crescent Company relating to the operation of a printing facility .

New Emission Units and Pollution Control Equipment

The source consists of the following emission units and pollution control devices:

(a) One (1) Hamilton 140 nonheatset web offset lithographic printer utilizing the following materials:
1. Litho Inks, maximum throughput of 588 gal/yr;
2. Acetone, maximum throughput of 40 gal/yr;
3. Type Wash, maximum throughput of 300 gal/yr;
4. Roller Wash, maximum throughput of 120 gal/yr; and
5. PR-628 Alcohol, maximum throughput of 24 gal/yr.

(b) One (1) Heidleberg GT02-52 sheetfed offset lithographic printer utilizing the following materials:
1. Litho ink, maximum throughput of 294 gal/yr;
2. Acetone, maximum throughput of 20 gal/yr;
3. Type wash, maximum throughput of 150 gal/yr;
4. Roller wash, maximum throughput of 60 gal/yr; and
5. PR-628 Alcohol, maximum throughput of 12 gal/yr.

(c) One (1) Miller TP-38A sheetfed offset lithographic printer utilizing the following materials:
1. Litho ink, maximum throughput of 294 gal/yr;
2. Acetone, maximum throughput of 20 gal/yr;
3. Type wash, maximum throughput of 150 gal/yr;
4. Roller wash, maximum throughput of 60 gal/yr; and
5. PR-628 Alcohol, maximum throughput of 12 gal/yr.

(d) One (1) Comco UV Ink Flexo printer utilizing the following materials:

1. UV inks, maximum throughput 210 gal/yr;
2. Acetone, maximum throughput 20 gal/yr; and
3. Roller Wash, maximum throughput 90 gal/yr.

(e) One (1) Gallus R160E02 Rotary UV Ink Letterpress Label Printer utilizing the following materials:
1. UV inks, maximum throughput 210 gal/yr;
2. Acetone, maximum throughput 10 gal/yr; and
3. Roller Wash, maximum throughput 60 gal/yr.

(f) One (1) Gallus R160-B03 Rotary Letterpress and Screen Combination Printer utilizing the following materials:
1. UV inks, maximum throughput 210 gal/yr;
2. Acetone, maximum throughput 10 gal/yr;
3. Roller Wash, maximum throughput 30 gal/yr; and
4. Propylene Glycol Monoethyl Ether maximum throughput 100 gal/yr.

(g) One (1) Mark Andy 404 Waterbase Flexo Printer utilizing the following materials:
1. Litho inks, maximum throughput 263 gal/yr;
2. Acetone, maximum throughput 2 gal/yr;
3. Type Wash, maximum throughput 7 gal/yr; and
4. Roller Wash, maximum throughput 10 gal/yr.

(h) One (1) Miller 407 Sheetfed Offset Lithographic Printer utilizing the following materials:
1. Litho inks, maximum throughput 205 gal/yr;
2. Acetone, maximum throughput 5 gal/yr;
3. Type Wash, maximum throughput 127 gal/yr; and
4. Roller Wash, maximum throughput 104 gal/yr.

(i) One (1) Kelleigh 210 Cyrel Platemaking System utilizing Optisol Rotary Solution, maximum throughput 30 gal/yr.

(j) One (1) Stevens 2000 Flexo graphic Printer utilizing a water based ink, maximum throughput of 133,680 gal/yr.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) OP 945349, issued on October 12, 1994 and OPR 985349 issued on September 17, 1998.

All conditions from previous approvals were incorporated into this permit.

Stack Summary

There are no stacks at this facility.

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on August 5, 1999, with additional information received on September 20, 1999.

Emission Calculations

See Appendix A , of this document for detailed emissions calculations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	0.0
PM-10	0.0
SO_2	0.00
VOC	18.31
CO	0.00
NO_x	0.00

HAP's	Potential To Emit (tons/year)
Combination	0.25
TOTAL	0.25

(a) This source is **not** a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories. Therefore the requirements of 326 IAC 2-5 apply.

(b) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

The following table shows the actual emissions from the source. This information reflects the 1998 ERMD and OAM emission data.

Pollutant	Actual Emissions (tons/year)
PM	0.0
PM-10	0.0
SO_2	0.0
VOC	2.2
CO	0.0
NO_x	0.0

County Attainment Status

The source is located in Marion County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Marion County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Marion County has been classified as attainment or unclassifiable for PM-10, SO_2, NO_2, Ozone, CO, and Lead. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Pollutant	Emissions (ton/yr)
PM	0.0
PM10	0.0
SO_2	0.0
VOC	18.31
CO	0.0
NO_x	0.0

This source is not a major stationary source because no attainment regulated pollutant is emitted at a rate of 250 tons per year or more, and it is not in one of the 28 listed source categories.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This new source is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:
(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(c) any combination of HAPs is less than 25 tons/year.

This is the first air approval issued to this source.

Federal Rule Applicability

1. The printing operation is not subject to the New Source Performance Standards for the Graphic Arts Industry: Publication Rotogravure Printing, 40 CFR Part 60.430, Subpart QQ (312 IAC 12), because it is not a publication Rotogravure printing operation.

2. The printing operation is not subject to the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for the Printing and Publishing Industry, 40 CFR Part 63.820, Subpart KK (326 IAC 12), because it is not a major source for HAPs.

3. There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR art 63) applicable to this source.

State and Local Rule Applicability - Entire Source

1. IAPCB Regulation 2 (Permits) and 326 IAC 2-5 (Registration Content)

   Pursuant to IAPCB Regulation 2 (Permits) and 326 IAC 2-5.5-4 (Registration Content) An authorized individual shall provide an annual notice to the Environmental Resources Management Division and the Office of Air Management that the source is in operation and in compliance with this registration pursuant to state regulation 326 IAC 2-5.5-4(a)(3).

2. IAPCB Regulation 2-6 (Annual emission statement rule) and 326 IAC 2-6 (Emission Reporting)

   Pursuant to IAPCB Regulation 2-6 (Annual emission statement rule) and 326 IAC 2-6 (Emission Reporting), an authorized individual with a source that has a potential to emit more than ten (10) tons per year of volatile organic compounds, shall provide an annual emission statement to the Environmental Resources Management Division and the Office of Air Management.

3. IAPCB Regulation 5-1-2 (Smoke and Other Visible Emissions) and 326 IAC 5-1 (Visible Emissions Limitations)

   Pursuant to IAPCB Regulation 5-1-2 (Smoke and Other Visible Emissions) and 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

   (a) Opacity shall not exceed an average of thirty percent (30%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

   (b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of

fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State and Local Rule Applicability - Individual Facilities

1. IAPCB Regulation 2 (Permits) and 326 IAC 8-1-6 (General Provisions relating to VOC rules: general reduction requirements for new facilities)

2. The printing operation is not subject to the requirements of 326 IAC 8-1-6 due to the potential volatile organic compound emissions being less than twenty-five (25) tons per year.

3. The printing operation is not subject to the requirements of 326 IAC 8-5-5 (Miscelaneous operations: graphic arts operations) due to the volatile organic compound emissions being less than twenty-five (25) tons per year.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

This new operation will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Amendments to Clean Air Act.

See attached spreadsheets for detailed air toxic calculations.

Conclusion

The operation of Keller Crescent Company shall be subject to the conditions of the attached proposed Registration R097-11620-00270.

Keller Crescent Company
097-11622-00270
Printing Calculations
Tena Hopkins

TOTAL VOCs AND HAPS FROM ALL PRINTING OPERATIONS

Lithographic Printers	tons/yr
Hamilton 140	1.6
Heidelberg GT02-52	0.8
Miller TP-38A	0.8
Miller 407	0.8
Flexographic Printers	
Comco UV Ink	0.37
Mark Andy 404	0.2
Stevens 2000	12.87
Rotary Printers	
Gallus R160E02	0.24
Gallus R160-B03	0.52
Kelleigh 210 Platemaking	0.11
TOTAL VOCS	**18.31**
TOTAL HAPS	**0.251**

Hamilton -140
Nonheatset Web Offset Lithographic Printing

Litho Inks Usage	588 gal/yr
Density	8.5 lbs/gal
% Vol. by weight	17
Emission Factor	5%

VOC = (588 gal/yr)(8.5 lb/gal)(17% VOC)(5%)
= 42.5 lb/yr

Acetone Usage	40 gal/yr
Density	6.56 lbs/gal
Specific Gravity	0.792
% Vol. by weight	100%

VOC = (40 gal/yr)(6.56 lbs/gal)(0.792)((100%)
= 208 lb/yr

Type Wash Usage 300 gal/yr
Density 6.23 lbs/gal
% Vol. by weight 100%
VOC = (300 gal/yr)(6.23 lbs/gal)(100%)
= 1869 lb/yr

Roller Wash Usage 120 gal/yr
Density 7.22 lb/gal
% Vol. by weight 100%
VOC = (120 gal/yr)(7.22 lb/gal)(100%)
= 866 lb/yr

PR-628 Alcohol Sub. 24 gal/yr
Density 7.80 lb/gal
% Vol. by weight 99%
VOC = (24 gal/yr)(7.80 lb/gal)(99%)
= 185 lb/yr

TOTAL VOC = (3171 lb/yr) (1/2000)
= 1.6 tons/yr

Heidelberg GT02-52 Sheetfed Offset Lithographic Printing

Litho Ink Usage 294 gal/yr
Density 8.5 lb/gal
% Vol. by weight 17%
Emission Factor 5%
VOC = (294 gal/yr)(8.5 lb/gal)(17%)(5%)
= 21 lb/yr

Acetone Usage 20 gal/yr
Density 6.56 lb/gal
Specific Gravity 0.792
% Vol. by weight 100%
VOC = (20 gal/yr)(6.56 lb/gal)(0.792)(100%)
= 104 lb/yr

Type Wash Usage 150 gal/yr
Density 6.23 lbs/gal
% vol. by weight 100%
VOC = (150 gal/yr)(6.23 lb/gal)(100%)
= 934 lb/yr

Roller Wash Usage 60 gal/yr
Density 7.22 lbs/gal
% vol. by weight 100%
VOC = (60 gal/yr)(7.22 lbs/gal)(100%)
= 433 lb/yr

PR-628 Alcohol Subs. Usage 12 gal/yr
Density 7.80 lb/gal
% vol. by weight 99%
VOC = (12 gal/yr)(7.80 lb/gal)(99%)
= 93 lbs/yr

TOTAL VOCs = (1585lb/yr)(1/2000)
=0.8 tons/yr

Miller TP-38A Sheetfed Offset Lithographic Printing

Litho Inks Usage 294 gal/yr
Density 8.5 lb/gal
% vol. by weight 17%
Emission Factor 5%
VOC = (294 gal/yr)(8.5 lb/gal)(17%)(5%)
= 21 lb/yr

Acetone Usage 20 gal/yr
Density 6.56 lb/gal
Specific Gravity 0.792
% vol. by weight 100%
VOC = (20 gal/yr)(6.56 lb/gal)(0.792)(100%)
= 104 lb/yr

Type Wash Usage 150 gal/yr
Density 6.23 lbs/gal
% vol. by weight 100%
VOC = (150 gal/yr)(6.23 lb/gal)(100%)
= 934 lb/yr

Roller Wash Usage 60 gal/yr
Density 7.22 lbs/gal
% vol. by weight 100%
VOC = (60 gal/yr)(7.22 lbs/gal)(100%)
= 433 lb/yr

PR-628 Alcohol Subs. Usage 12 gal/yr
Density 7.80 lb/gal
% vol. by weight 99%
VOC = (12 gal/yr)(7.80 lb/gal)(99%)
= 93 lbs/yr

TOTAL VOCs = (1585 lb/yr)(1/2000)
=0.8 tons/yr

Comco UV Ink Flexo Printing

UV Inks Usage 210 gal/yr
Density 9.5 lb/gal
% vol. by weight 0%
VOC = (210 gal/yr)(9.5 lb/gal)(0%)
= 0 lb/yr

Acetone Usage 20 gal/yr
Density 6.56 lb/gal
Specific Gravity 0.792
% vol.by weight 100%
VOC = (20 gal/yr)(6.56 lb/gal)(0.792)(100%)
= 104 lb/yr

Roller Wash Usage 90 gal/yr
Density 7.22 lb/gal
% vol. by weight 100%
VOC = (90 gal/yr)(7.22 lb/gal)(100%)
= 650 lb/yr

TOTAL VOC = (754lb/yr)(1/2000)
= 0.37 tons/yr

Gallus R160E02 Rotary UV Ink Letterpress Label Printing

UV Ink Usage 210 gal/yr
Density 9.5 lb/gal
% vol. By weight 0%
VOC = (210 gal/yr)(9.5 lb/gal)(0%)
= 0%

Acetone Usage 10 gal/yr

Density 6.56 lb/gal
Specific Gravity 0.792
% vol.by weight 100%
VOC = (10 gal/yr)(6.56 lb/gal)(0.792)(100%)
= 52 lb/yr

Roller Wash Usage 60 gal/yr
Density 7.22 lb/gal
% vol. by weight 100%
VOC = (60 gal/yr)(7.22 lb/gal)(100%)
= 433 lb/yr

TOTALVOC = (485lb/yr)(1/2000)
= 0.24 tons/yr

Gallus R160-B03 Rotary Letterpress and Screen Combination Printing

UV Ink Usage 210 gal/yr
Density 9.5 lb/gal
% vol. By weight 0%
VOC = (210 gal/yr)(9.5 lb/gal)(0%)
= 0%
Acetone Usage 10 gal/yr
Density 6.56 lb/gal
Specific Gravity 0.792
% vol.by weight 100%

VOC = (10 gal/yr)(6.56 lb/gal)(0.792)(100%)
= 52 lb/yr

Roller Wash Usage 30 gal/yr
Density 7.22 lb/gal
% vol. by weight 100%
VOC = (30 gal/yr)(7.22 lb/gal)(100%)
= 217 lb/yr

Propylene Glycol Monoethyl Ether Usage 100 gal/yr
Density 8.33 lb/gal
Specific Gravity 0.92
% vol. by weight 100%
VOC = (8.33 lb/gal)((0.92)(100%)
= 766 lb/yr

TOTAL VOC = (1035lb/yr)(1/2000)
= 0.52 tons/yr

Mark Andy 404 Waterbase Flexo Printing

Litho Inks Usage 263 gal/yr
Density 8.5 lbs/gal
% Vol. by weight 17
Emission Factor 5%
VOC = (263 gal/yr)(8.5 lb/gal)(17% VOC)(5%)
= 19 lb/yr

Acetone Usage 2 gal/yr
Density 6.56 lbs/gal
Specific Gravity 0.792
% Vol. by weight 100%
VOC = (40 gal/yr)(6.56 lbs/gal)(0.792)((100%)
= 208 lb/yr

Type Wash Usage 7 gal/yr
Density 6.23 lbs/gal
% Vol. by weight 100%
VOC = (7 gal/yr)(6.23 lbs/gal)(100%)
= 44 lb/yr

Roller Wash Usage 10 gal/yr
Density 6.97 lb/gal
% Vol. by weight 100%

VOC = (10 gal/yr)(6.97 lb/gal)(100%)
= 70 lb/yr

TOTAL VOC = (341)(1/2000)
= 0.2 tons/yr

Miller 407 Sheetfed Offset Lithographic Printing
Litho Inks Usage 205 gal/yr
Density 8.5 lbs/gal
% Vol. by weight 17
Emission Factor 5%
VOC = (205 gal/yr)(8.5 lb/gal)(17% VOC)(5%)
= 15 lb/yr

Acetone Usage 5 gal/yr
Density 6.56 lbs/gal
Specific Gravity 0.792
% Vol. by weight 100%
VOC = (5 gal/yr)(6.56 lbs/gal)(0.792)((100%)
= 26 lb/yr

Type Wash Usage 127 gal/yr
Density 6.23 lbs/gal
% Vol. by weight 100%
VOC = (127 gal/yr)(6.23 lbs/gal)(100%)
= 791 lb/yr

Roller Wash Usage 104 gal/yr
Density 6.97 lb/gal
% Vol. by weight 98%
VOC = (104 gal/yr)(6.97 lb/gal)(98%)
= 710 lb/yr

TOTAL VOC = (1542) (1/2000)
= 0.8 tons/yr

Kelleigh 210 Cyrel Platemaking System

Optisol Rotary Solution usage 30 gal/yr
Density 7.64 lb/gal
% vol. by weight 100%
VOC = (30 gal/yr)(7.64lb/gal)(100%)
= 229 lb/yr

TOTAL VOCs = (229)(1/2000)
= 0.11 tons/yr

MODIFICATION

Stevens 2000 Flexographic Printer

Water Based Ink usage 133680 gal/yr

TOTAL VOCs = 12.87 ton/yr
See page 9 of 9

HAPS	**lb/hr**	
Ethylene Glycol	0.011	
Methanol	0.002	
Toluene	0.171	
Vinyl Acetate	0.022	
Xylenes	0.036	
Glycol Ethers	0.009	
TOTAL	**0.251**	**COMBINATION**

Stevens 2000 flexographic printer

VOC From Printing Press Operations

Company Name: Keller Crescent Co., Inc.
Address City IN Zip: 6454 Saguaro Court, Indianapolis, 46268
Reviewer: TMH
Date: 09/13/99

THROUGHPUT

Press I.D.	MAXIMUM LINE SPEED FEET MIN	CONVERT FEET TO INCHES	MAXIMUM PRINT WIDTH INCHES	60 MIN HOUR	8760 HR YEAR	1/1000000	Throughput MMin^2/YEAR (1)
2000	500	12	20	60	8760	1000000	63072

(1) Throughput = Maxium line speed feet per minute * Convert feet to inches * Maximum print width inches * 60 minutes per hour * 8760 hours per year = MMin^2 per Year

PTE for VOCs

Compound Name (Compound with highest VOC content)	Maxium Coverage lbs/ MMin^2	Weight % Volatiles*	Flash Off %	Through Put MMin^2/ Year	Tons 2000 lbs	Tons Year (2)
Water based Ink	12	68%	5.00%	63072	2000	12.87

VOC (tons/yr) All Presses	**12.87**
VOC (lbs/day) All Presses	70.52

(2) VOC = Maximum Coverage pounds per MMin^2 * Weight % volatiles (weight % of water & organics - weight % of water = weights % organics) * Flash off * Throughput * Tons per 2000 pounds = Tons per Year